

NOTES ON THE FLORA OF COSTA RICA, 5:

A NEW SPECIES OF COCCOLOBA AND
NEW RECORDS OF POLYGONACEAE.

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More intensive field work in the seasonally very dry and deciduous woodlands of Guanacaste Province has resulted in finding a number of plants not previously recorded for Costa Rica. Among these are a new species of *Coccoloba* closely related to *Coccoloba padiformis* and a species of *Podopteris*. Another polygonaceous genus not previously known in Costa Rica has been found as an ornamental climber in the city of San Jose; it is *Bilderdykia*, a segregate of the genus *Polygonum*.

COCCOLOBA GUANACASTENSIS W. Burger, sp. nov.

Arbor, usque 10 m alta, ramulis glabris; ocreis 4-8 mm longis, chartaceis; petioles supra basem ocreis gerentibus, teretibus, 15-30 mm longis, glabris; laminis oblongis vel oblongi-ellipticis, 7-18 cm longis, 3-9.5 cm latis, ad apicem obtusis vel rotundatis, basi obtusis vel rotundatis, glabris. Inflorescentiae racemosae, 10-15 cm longae, bracteis minutis; floribus plerumque solitariis, 4-6 mm longis, ca. 7 mm latis, pedicellis 2-4 mm longis, glabris, hypanthiis accrescentibus. HOLOTYPE: *Opler 555* in F (1711161); ISOTYPUS in CR.

Trees to about 10 m tall, leafy internodes 0-3 cm long, 1.5-4 mm thick, glabrous, becoming pale grayish and striate; stipules (ocreae) 4-8 mm long, the distal tube 2-3 mm broad, thin and caducous, the basal portion persisting with the leaves and originating below the petiole-base, glabrous. Leaves often borne close together near the ends of branches, deciduous, petioles 1.5-3 cm long, 1-2.5 mm thick, terete (except near the lamina-base), glabrous, articulated with the stem 2-6 mm above the differentiated base of the ocrea; laminae (7) 9-18 cm long, 3-9.5 cm broad, broadly oblong to elliptic-oblong, obtuse to rounded at the apex and often very short acuminate at the tip, obtuse to rounded at the base, margin entire or drying undulate, the laminae drying very

stiffly chartaceous and often pale greenish gray in color (the newly expanded leaves drying thin and brown), smooth and glabrous on both surfaces, with 6 to 10 pairs of major secondary veins, the tertiary veins forming a very fine (0.2-0.6 mm) reticulum that is slightly raised on both surfaces and paler in color than the enclosed leaf-areas on the lower surface when dry. Inflorescences terminal or axillary, 1 or 2 from the same node, 10-15 cm long at anthesis, racemose with the flowers usually solitary (rarely 2 together) and separate along the thin (0.5-1 mm) glabrous rachis, the rachis longitudinally ridged but not thickened at the pedicel-bases, the subtending bracts and bracteoles less than 0.5 mm long, deciduous, pedicels 2-4 mm long; the flowers appearing to be bisexual, 4-6 mm long and 7 mm broad, the hypanthium narrowed for 0.5-2 mm above the articulation with the pedicel, hypanthium 2-3 mm long with perianthlobes 2-3 mm long, anthers about 0.8 mm long, stigmas 3, exserted and thickened. Fruit (not fully mature?) partly enclosed within the perianth-base (hypanthium), perianthlobes becoming half the length of the developing fruit, free and separate from the upper half of the fruit; achene apparently somewhat turbinate with an expanded and rounded distal half.

As presently known, this species is endemic to the deciduous forest formations of Guanacaste Province below 300 m. elevation. It appears to be a member of the riparian forest community and flowers during the dry season, from February to April. The following collections represent this species: from the Comelco property near Bagaces, *P. A. Opler 555 & 763*, Feb. 21, 1972 and April 28, 1972; from near Canas, *R. Daubermire 614* March 9, 1970; and from Santa Rosa National Park, *Boucher 716*, March 12, 1977, and *D. Janzen 10915*, May 16, 1978.

Coccoloba guanacastensis is closely related to *C. padiformis* and some of our specimens have been identified as that species by R. A. Howard. While recognizing the close relationship with *C. padiformis*, the differences between the two are quite striking. The flowers of *C. guanacastensis* are generally about twice as large as those of *C. padiformis*. The dried leaves of *C. guanacastensis* are thinner and they possess a raised reticulum on the upper surface which is not at all apparent in material of *C. padiformis*. More important is the fact that the new species has the base of its petioles arise well above the differentiated base of their associated sheathing stipule, a condition I have not seen in *C. padiformis*. In addition, *C. guanacastensis* has only been found in the very dry (December through May) deciduous woodlands of northwestern Costa Rica, whereas our material of *C. padiformis* is only known from evergreen formations or forests which are largely evergreen. Thus, the two species appear to differ both in ecology and in morphology.

Bilderdykia aubertii (Henry) Moldenke has been found growing in the city of San Jose above the former area of the zoo near the end of Calle 11 (Burger & Antonio 10860, Sept 1978). This climber was at first mistaken for a species of *Antigonon* with immature flowers, but we soon realized that it was a genus not previously recorded for Costa Rica. The species can climb to over 15 meters high and its distal stems are pendant. The small whitish flowers in open inflorescences at the ends of hanging stems can cover walls and smaller shrubs. It is occasionally planted as an ornamental in Europe but it originated in the Himalayas. This species is also referred to as *Fallopia aubertii* (Henry) J. Holub and *Polygonum aubertii* Henry.

Podopteris mexicanus Humboldt & Bonpland is also a genus and species newly discovered in the Costa Rican flora. It has been found at the edge of seasonally inundated areas in deciduous woodland near Palo Verde, Guanacaste. The species has been collected by William Haber on March 17, 1977, and by Daniel Janzen in December of the same year.

Ruprechtia costata Meisner is not a new record for Costa Rica but it does present a taxonomic problem. (It was previously reported as *R. cumingii*, a South American species.) The Costa Rican collections, all from lowland Guanacaste, have much smaller leaves and fruit than is typical for material from northern Central America, and it does not seem advisable to give the distinctive Costa Rican collections the status of species or subspecies at this time.

Acknowledgement

This work has been supported in part by National Science Foundation Grants GB-3106, GB-7300, GB-28446, and DEB-8103184 for the Flora of Costa Rica project. Other grants have supported ecological research in the deciduous forest formations of Guanacaste Province and these have been responsible for obtaining many of the new collections. Previous contributions to this series can be found in *Phytologia*, Volume 26, pages 131 to 135 and 421 to 434, and in Volume 31, pages 267 to 272.